# https://encrypted-tbn3.google.com/images?q=tbn:ANd9GcTLAZpQzmzAPnXtyNCq1onsRE4y0bvoWlMvd3YA8Lt715oLXEJxWAIT 5302 Intro Web Study Guide Module 5: JavaScript and DHTML Prepared by Jack G. Zheng, Spring 2015

## Overview and learning outcomes

A common use of JavaScript is to manipulate client side content like HTML and CSS to provide dynamic effects. All these manipulations happen on the client side, without communicating with the server. The manipulations are usually done through HTML DOM (document object model).

1. Explain HTML DOM hierarchy, nodes, and node types.
2. Know how to use JavaScript to access (read) and change HTML elements, and their value, attributes, and styles. Examples include:
   1. Change text (content, color, font, etc.)
   2. Change image (src, border, etc.)
   3. Change element visibility, margin, position, etc.
3. Understand and apply the event model in HTML DOM using JavaScript, particularly the click and load events.
4. Perform basic form processing using JavaScript:
   1. Retrieve user input from various form elements and perform actions such as calculation.
   2. Perform basic client-side input validation.

## Reading list

1. Tutorial videos and examples. Please follow the video to create example files. Note the “DocType” in the video is an old version.
   1. JavaScript function and event: <https://www.youtube.com/watch?v=LjJwDegeAZU>
   2. JavaScript examples “dhtml examples.zip” provided by the instructor (#7 is optional).
2. Core online learning materials – read all items below.
   1. <http://www.w3schools.com/js/js_htmldom.asp> - read the following 7 sections (the menu is on the left) and practice the examples online:
      1. “JS HTML DOM”: “DOM Intro” to “DOM Events”.
   2. <http://www.javascript-coder.com/javascript-form>: good readings and examples on using JavaScript to process form data on the client side. At least read the following articles:
      1. <http://www.javascript-coder.com/javascript-form/javascript-calculator-script.phtml>
      2. <http://www.javascript-coder.com/javascript-form/getelementbyid-form.phtml>
      3. <http://www.javascript-coder.com/javascript-form/javascript-get-check.phtml>
      4. <http://www.javascript-coder.com/javascript-form/javascript-get-select.phtml>
      5. <http://www.javascript-coder.com/javascript-form/javascript-form-submit.phtml>
3. More examples
   1. <http://www.w3schools.com/js/js_dom_examples.asp>
   2. <http://www.w3schools.com/js/js_input_examples.asp>
4. Additional readings and resources
   1. <http://www.teaching-materials.org/jsdom/>
   2. <http://www.w3schools.com/js/js_ex_dom.asp>
   3. <http://www.w3schools.com/js/js_events_examples.asp>

## Task list

1. Research and discuss:
   1. [Now you have more experience with what JavaScript can do, let’s continue the discussion from last module and see if you have new comments.] JavaScript is executed all on the client side within the browser. What kind of tasks or applications do you think is best to be executed completely on the client side, without communicating with the server? Give an example. Please avoid repeating previous examples posted by other students.
2. Exercise (no submission):
   1. Complete the DHTML lab exercise after you completed all required readings and videos. Summarize all mistakes you have made during the exercise.
3. Assignment: complete assignment #4 after all exercises.
4. Quiz: complete quiz #3.